03 SEP 2004

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 25 September 2003 (25.09.2003)

(10) International Publication Number WO 03/078520 A1

(51) International Patent Classification7: C08L 27/06

PCT/US03/07490 (21) International Application Number:

(22) International Filing Date: 13 March 2003 (13.03.2003)

(25) Filing Language:

English

C08K 3/26.

(26) Publication Language:

English

(30) Priority Data: 10/098,241

15 March 2002 (15.03.2002) US

- (71) Applicant (for all designated States except US): POLY-ONE CORPORATION [US/US]; PolyOne Center, Avon Lake, OH 44012 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HAWRYLKO, Roman, B. [US/US]; 457 Moorewood Avenue, Avon Lake, OH 44012 (US). KRAUSE, Peter, W. [CA/CA]; 28 Leeson Steet, P.O. Box 225, Grand Valley, Ontario LON 1G0 (CA). LEVESQUE, Michel, F. [CA/CA]; 126 St. Charles Drive, Beauharnois, Quebec J6N283 (CA).
- (74) Agent: HORNICKEL, John, H. and BAN, Woodrow W.; Polyone Corporation, Polyone Center, Avon Lake, OH 44012 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,

SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: USE OF CALCIUM CARBONATE IN RIGID POLY (VINYL CHLORIDE) COMPOSITIONS

(57) Abstract: Poly(vinyl chloride) is compounded with a chalk-like, essentially pure calcium carbonate to provide improved weathering resistance of rigid poly(vinyl chloride) articles subjected to external exposures of heat and sunlight. Blends and alloys are also disclosed. Optionally, one can add either zinc alkyl ester scavenger, organotin stabilizer, or both to further improve the effectiveness of the essentially pure calcium carbonate.

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 COSK3/26 COSL27/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{MinImum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{C08K} \end{array}$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
(GB 1 564 087 A (GAF CORP) 2 April 1980 (1980-04-02) examples 1-3 claims 1-8	1–12
X	DATABASE WPI Section Ch, Week 199140 Derwent Publications Ltd., London, GB; Class A14, AN 1991-292712 XP002248631 & JP 03 195754 A (NIPPON PIGMENT KK), 27 August 1991 (1991-08-27) abstract	1-12

Y Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
 Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filling date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filling date but later than the priority date claimed 	 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the International search report
22 July 2003	06/08/2003
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Siemens, T



In I Application No
PCT/vo 03/07490

DATABASE WPI Section Ch, Week 199639 Derwent Publications Ltd., London, GB; Class A14, AN 1996-388640 XP002248632 & JP 08 188652 A (MITSUBISHI KASEI VINYL KK), 23 July 1996 (1996-07-23) abstract Relevant to cla
Section Ch, Week 199639 Derwent Publications Ltd., London, GB; Class A14, AN 1996-388640 XP002248632 & JP 08 188652 A (MITSUBISHI KASEI VINYL KK), 23 July 1996 (1996-07-23)

INTERNATIONAL SEARCH REPORT

PCT/55 03/07490

Patent document cited in search report		Publication date	Patent family member(s)			Publication date
GB 1564087	A 02-04-1	02-04-1980	AU	515451	B2	02-04-1981
			AU	3430378	Α	27-09-1979
			CA	1116769	A1	19-01-1982
			DE	2815176	A1	02-11-1978
			FR	2388854	A1	24-11-1978
			JP	53134850	Α	24-11-1978
JP 3195754	Α	27-08-1991	JP	7122011	В	25-12- 1 995
JP 8188652		23-07-1996	NONE			